# Product Evaluation

RC543| 0118 Engineering Services Program

*The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

*For more information, contact TDI Engineering Services Program at (800) 248-6032.*

**Evaluation ID:** RC-543

**Effective Date:** July 1, 2017
**Revised:** January 1, 2018
**Re-evaluation Date:** July 2021

**Product Name:** Sika Sarnafil PVC Single Ply Roofing

**Manufacturer:** Sika Sarnafil, A Division of Sika Corp.
100 Dan Road
Canton, MA 02021
(781) 332-3223

**General Description:**

- **S327** is a nominal 48-mil (1.2 mm), 60-mil (1.5 mm), 72 mil (1.8 mm) or 80 mil (2.0 mm) thick, polyester scrim reinforced, single-ply roof membrane coated with a proprietary PVC compound. Also available in a 10-ft (3 m) width, $_{10}$S327.
- **S327 Felt** is a nominal 48-mil (1.2 mm), 60-mil (1.5 mm), 72 mil (1.8 mm) or 80 mil (2.0 mm) thick, polyester scrim reinforced, single-ply roof membrane coated with a proprietary PVC compound and a felt backing
- **Sikaplan Fastened** is a nominal 45-mil (1.1 mm) or 60-mil (1.5 mm) thick, polyester scrim reinforced, single-ply roof membrane coated with a proprietary PVC compound
- **Sikaplan Fastened Feltback** is a nominal 45-mil (1.1 mm) or 60-mil (1.5 mm) thick, polyester scrim reinforced, single-ply roof membrane coated with a proprietary PVC compound and a felt backing
- **Sikaplan Adhered** is a nominal 60-mil (1.5 mm) thick, fiberglass mat reinforced, single-ply roof membrane coated with a proprietary PVC compound
- **G410** or **Textured G410** are a nominal 60-mil (1.5 mm), 72 mil (1.8 mm) or 80 mil (2.0 mm) thick, fiberglass mat reinforced, single-ply roof membranes coated with a proprietary PVC compound
- **G410 Felt** or **Textured G410 Felt** are a nominal 48-mil (1.2 mm), 60-mil (1.5 mm), 72 mil (1.8 mm) or 80 mil (2.0 mm) thick, fiberglass mat reinforced, single-ply roof membranes coated with a proprietary PVC compound and a felt backing

- **Ply Sheet HA 87** is a sanded, fiberglass reinforced modified bitumen base/ply sheet. Applied in hot asphalt, cold adhesive or ribbon stripping
- **Ply Sheet TA 87** is a fiberglass reinforced modified bitumen base/ply sheet with a plastic burn-off film on the bottom and sanded on the top. Applied by heat welding or ribbon stripping (after removal of plastic burn-off film).

**Adhesives:**

- **Sarnacol 2170 VC** is a solvent-based, VOC compliant adhesive.
- **Sarnacol 2170** is a solvent-based reactivating adhesive used with a Sika Sarnafil Adhered system and/or flashing detail.
- **Sarnacol 2121** is a water-based dispersion adhesive used within a Sika Sarnafil Adhered System.
- **Sikaplan Single-Step Membrane Adhesive** is a water-based dispersion adhesive used within a Sikaplan Adhered Roofing System.
- **Sarnacol AD-FMA** is a two-component foamable polyurethane adhesive that is applied in one step and sets up in two minutes.
- **Sarnacol OM-FBA** is a two competent foamable polyurethane adhesive that is applied in one step and sets up in minutes.

**Fasteners & Plates:**

- **Sarnafastener (#12) or Sikaplan Board Fastener** are Phillips head, modified buttress thread, carbon steel fasteners for use in steel or wood decks.
- **Sarnafastener #14 or Sikaplan Fastener #14** are Phillips head, standard thread, pinch point, carbon steel fasteners for use in steel, wood or concrete decks.
- **Sarnafastener-XP or Sikaplan Fastener #15** are truss head, self-drilling, drill point, high thread fasteners for use in wood or steel decks.
- **Sarnafil MAXLoad or Sarnafastener – MAXLoad** are truss head, self-drilling, pinch point, high thread fasteners for use in wood, steel or concrete decks.
- **Sarnaplate** is a 3" diameter, A2-SS aluminized steel plate.
- **Sarnadisc Rhinobond or Sikaplan RhinoBond** are 3-inch diameter, polymer coated plates specially designed for use in induction welding applications.
- **Sarnadisc-XPN** is an 18 ga., 1-1/2" by 3-1/4" steel plate with an AZ 55 Galvalume coating.
- **Sarnadisc MAXLoad** is a 3.5" diameter, 20 ga. AZ-50 galvalume coated steel plate.

**Insulations & Coverboards:**

- **Sarnatherm** is a polyisocyanurate foam insulation marketed by Sika Sarnafil A Division of Sika Corp.
- **ACFoam-II** and **ACFoam-III** are polyisocyanurate foam insulation manufactured by Atlas Roofing Corporation.
- **H-Shield** is a polyisocyanurate foam insulation manufactured by Hunter Panels, LLC.
- **ISO 95+GL** is a polyisocyanurate foam insulation manufactured by Firestone Building Products Company, LLC.
- **ENRGY 3** is a polyisocyanurate foam insulation manufactured Johns Manville Corp.
- **DensDeck and DensDeck Prime** are a fiberglass faced, water-resistant gypsum core coverboard manufactured by Georgia-Pacific Gypsum, LLC

- **SECUROCK Gypsum-Fiber Roof Board** is a water-resistant gypsum core coverboard manufactured by US Gypsum Corporation.

**Limitations and Installation:**
**Roof Deck:** For new applications, the roof deck must be secured to the roof framing to resist the required uplift loads.

**Positive Drainage of Roof Deck:** Roof decks, in which this product is to be installed upon, must be provided with positive drainage. A minimum roof slope after construction of 1/4" per foot is recommended.

**Design Wind Pressure:** The design wind uplift pressure must be specified in the assemblies listed in this evaluation report.

**Installation Over an Existing Roof Covering (Roof Recover):**

**Acceptable Applications:** Mechanically attached single-ply roofing system may be installed over an existing built-up roof covering or an existing single-ply roof covering based on the requirements set forth in this product evaluation report.

**Inspection of Roof Covering Recover Installation:** Inspection of the roof covering recover installation must be by a Texas Department of Insurance appointed engineer. The Texas Department of Insurance appointed engineer must determine if the roof framing can support the combined weight of the existing roof covering and the roof covering recover.

**Roof Covering Replacement Versus Roof Covering Recover:** All existing roof coverings must be completely removed and a new roof covering installed if any of the following conditions occur:
- The existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for the additional roof covering.
- The existing roof has two or more applications of any type of roof covering.

**Positive Drainage:** The roof covering recover application must not be required to meet the minimum roof slope of 1/4" per foot if positive drainage is provided.

**Roof Framing:** The maximum allowable spacing of the roof framing must be as specified in this evaluation report.

**Roof Deck:** The existing roof deck must be as specified in each assembly listed in this evaluation report. The underside of the roof deck must be examined by the Texas Department of Insurance appointed engineer for corrosion or deterioration. If corrosion exists, then it must be treated with a rust inhibitor. A fastener withdrawal resistance test must be conducted in the corroded or deteriorated area to determine if the withdrawal resistance of the fastener complies with the minimum fastener requirements for the roof covering recover application. If the tested fastener fails to comply, then the deteriorated roof deck must be replaced.

**Fastener Withdrawal Resistance:** The fastener withdrawal resistance must be conducted in accordance with ANSI/SPRI FX-1-2006 and this evaluation report.

Fasteners used for the installation of the roof covering recover to the existing roof deck must be as specified in the Installation Instructions section of this evaluation report. For the withdrawal test, the fasteners must be installed in the existing roof deck as required for the roof covering recover installation. A Texas Department of Insurance appointed engineer must review the data to verify the integrity of the

existing roof deck and to compare results of the withdrawal tests with the minimum fastener requirements for the roof covering recover application.

The Texas Department of Insurance appointed engineer must document all test results, including the locations on the roof surface where the tests are performed. A minimum of ten withdrawal resistance tests are required for a roof area up to 50,000 square feet (a minimum of 50 percent of the tests must be conducted at the perimeter and the corners). Five additional tests are required for each additional 50,000 square feet of roof area or portion thereof (a minimum of 50 percent of the tests must be conducted at the perimeter and the corners). The tests must be located evenly spread across the surface of the roof. At least one withdrawal test must be performed on each roof level if the roof consists of multiple levels.

The withdrawal resistance of each tested fastener must comply with the minimum fastener requirements for the roof covering recover application. If a tested fastener fails to comply, then the Texas Department of Insurance appointed engineer must examine that area for deterioration of the roof deck by removing the existing roof covering in that area. If that area of the roof deck has deteriorated, then the deteriorated roof deck must be replaced.

**Existing Roof Covering Preparation:** The existing roof covering must be prepared to receive the roof covering recover as specified in the Sika Sarnafil installation instructions.

- The existing roof covering surface must be dry and free of dirt and debris.
- If the existing roof covering is gravel surfaced, then the loose gravel must be completely removed. The surface of the existing roof covering must be relatively smooth.
- If the existing roof covering has blisters, buckles, ridges, folds, or other deformations, then they must be removed and the surface patched to provide a smooth surface.
- If the existing roof covering has loose fasteners, then the existing membrane must be cut open, the loose fasteners removed, and the surface patched to provide a smooth surface.

**Roof Covering Recover Installation:** Installation of the roof covering recover must be specified in the Installation Instructions section of this evaluation report.

**General Installation Requirements:** All IRC and the IBC requirements must be satisfied and manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

**Membrane Attachment:** The membrane must be either mechanically attached or fully adhered using the adhesives or fastener/plate combinations specified in this evaluation report.

**Fasteners:** Fasteners must be of sufficient length to penetrate into and through the steel deck a minimum of 3 threads beyond the bottom of the steel deck.

**The following notes apply to the systems outlined herein:**

1. The roof decking must meet or exceed the uplift requirements of the IRC and IBC along with applicable Texas Revisions adopted by TDI. Install as required for resistance to wind loads.
2. Unless otherwise noted, fasteners and stress plates for insulation attachment must be as follows. Fasteners must be sufficient length for the following engagements:
    - Sarnafastener #12 or Sarnafastener #14 with Sarnaplate; Minimum 0.75" steel penetration and engage the top flute of the steel deck. Minimum 3/4" steel penetration and engage the top flute of the steel deck.

3. Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads must expand as noted in the manufacturer's published instructions.
   - Hot Asphalt (HA): Full mopping, 25-30 lbs/square.
   - Sarnacol OM Board Adhesive (Sarnacol OM-BA): Continuous 0.75 to 1" wide ribbons, 12" o.c. Note: OMG OlyBond 500 may be used where Sarnacol OM Board Adhesive is referenced.
   - Sarnacol 2163: Continuous 0.5" beads, 12-inch o.c. Note: Millennium One Step Foamable Adhesive may be used where Sarncol 2163 is referenced.
   - Sarnacol AD Board Adhesive (Sarnacol AD-BA): Continuous 1/2 to 3/4" beads, 12-inch o.c. Note: Millennium PG-1 Pump Grade Adhesive may be used where Sarnacol AD Board Adhesive is referenced.
   - OMG OlyBond (OMG-OB): Full coverage at 1 gal/square
   - Note: When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, board joints must be staggered.
   - Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board must be not less than one-half the specified ribbons spacing.
4. Unless otherwise noted, all insulations are flat stock or taper board of the minimum thickness noted.
5. Permissible membrane alternates are as follows:
   - Textured G410 may be used where G410 is listed.
   - Textured G410 Felt may be used where G410 Felt is listed.
   - Sikaplan Fastened Feltback may be used where Sikaplan Fastened is listed.
6. Unless otherwise noted, refer to the following references for bonded membrane systems, side laps must be minimum 3" wide sealed with min. 1.25" heat weld. Membrane adhesive application rates are as follows:

| Membrane | Adhesive | Method | Rate |
|---|---|---|---|
| G410, S327, Sikaplan Adhered | Sarnacol 2170 | Contact (both sides) | 0.75 to 2 gal/square to substrate; 0.5 gal/square to membrane backside |
| G410 Felt, S327 Felt | Sarnacol 2170 | Wet lay (substrate) | 1.0 to 1.25 gal/square |
| G410, S327, Sikaplan Adhered | Sarnacol 2170 VC | Contact (both sides) | 0.75 gal/square to substrate; 0.5 gal/square to membrane backside |
| G410 Felt, S327 Felt | Sarnacol 2170 VC | Wet lay (substrate) | Two coats with total application rate of 2.0 gal/square |
| G410, Sikaplan Adhered, G410 Felt, S327, S327 Felt | Sarnacol 2121 | Wet lay (substrate) | 0.75 to 2.25 gal/square, depending on substrate porosity, rolled with 100 lb steel membrane roller |
| Sikaplan Adhered | Sikaplan Single-Step Membrane Adhesive | Wet lay (substrate) | 1.5 to 2.5 gal/square, rolled with 100 lb steel membrane roller |
| G410 Felt, S327 Felt | Sarnacol AD Feltback Membrane Adhesive (AD-FMA), Sarnacol OM Feltback Membrane Adhesive (OM-FMA) | Wet lay (substrate) | Continuous 0.5-inch wide ribbons spaced as noted in tables herein. |

**Limitations and Installation:** Installation must be in accordance with the following assemblies:

| APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE | | | | | |
|---|---|---|---|---|---|
| **Table** | **Deck** | **Assembly No.** | **Application** | **Description** | **Page** |
| 1 | Steel | S-1 | New, Reroof (Tear-Off) or Recover | Mech. Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover | 6 |
| 2A | Steel | S-2, S-3, S-4, S-5, S-6 | New, Reroof (Tear-Off) or Recover | Mech. Attached Insulation, Bonded Roof Cover | 7-9 |
| 2B | Steel | S-7, S-8 | New, Reroof (Tear-Off) or Recover | Mech. Attached Insulation, Base/Ply Sheet, Bonded Roof Cover | 9-10 |
| 2C | Steel | S-9, S-10 | New, Reroof (Tear-Off) or Recover | Mech. Attached Insulation, Plate-Bonded Roof Cover | 10-11 |
| 3 | Steel | S-11, S-12, S-13, S-14, S-15, S-16 | New, Reroof (Tear-Off) or Recover | Insulated, Mech. Attached Membrane – Stress Plates and Fasteners | 11-13 |

**TABLE 1: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER**
**MECHANICALLY FASTENED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER**

| Assembly No. | Substrate | Base Insulation Layer | | | Top Insulation Layer | | Roof Cover | |
|---|---|---|---|---|---|---|---|---|
| | | Type | Fastener | Attach | Type | Attach | Type | Attach |
| #1 (S-1) | Min. 22 ga., Type B, Grade 33 ksi steel | Min. 1.5" Sarnatherm, ACFoam II, ACFoam III, H-Shield, ISO 95+GL, ENRGY 3 | See Note 2 | 1 per 2 ft² | Min. 0.25" DensDeck Prime | Sarnacol OM-BA or OMG-OB | S327, G410, Sikaplan Adhered | Sarnacol 2170 VC, Sarnacol 2121, Sikaplan Single-Step Membrane Adhesive |
| | | | | | | | S327 Felt or G410 Felt | Sarnacol AD-FMA or Sarnacol OM-FMA, 12-inch o.c., Sarnacol 2170, Sarnacol 2121, Sarnacol 2170 VC |
| **Design Pressure (psf)** | | | | | | | | |
| -45.0 | | | | | | | | |

**Limitations and Installation (Continued):**

| TABLE 2A: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation Layer** | **Top Insulation Layer** | | | **Roof Cover** | |
| | | | **Type** | **Fastener** | **Attach** | **Type** | **Attach** |
| #2 (S-2) | Min. 22 ga., Type B, Grade 33 steel | Min. 1.5", one or more layers, any combination, loose laid | Min. 0.5" DensDeck Prime | See Note 2 | 1 per 4 $ft^2$ | S327, G410, Sikaplan Adhered | Sarnacol 2170, Sarnacol 2170 VC, Sarnacol 2121, Sikaplan Single-Step Membrane Adhesive |
| **Design Pressure (psf)** | | | | | | | |
| -45.0 | | | | | | | |

| TABLE 2A: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation Layer** | | | **Roof Cover** | |
| | | | **Type** | **Fastener** | **Attach** | **Type** | **Attach** |
| #3 (S-3) | Min. 22 ga., Type B, 33 ksi steel | One or more layers, min. 1.5" thick, any combination, loose laid | Min. 0.5" DensDeck Prime | See Note 2 | 1 per 1.33 $ft^2$ | S327, G410, Sikaplan Adhered | Sarnacol 2170, Sarnacol 2170 VC, Sarnacol 2121, Sikaplan Single-Step Membrane Adhesive |
| | | | Min. 0.5" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board | | | S327 Felt or G410 Felt | Sarnacol AD-FMA or Sarnacol OM-FMA, 12-inch o.c., Sarnacol 2170, Sarnacol 2121, Sarnacol 2170 VC |
| **Design Pressure (psf)** | | | | | | | |
| -67.5 | | | | | | | |

**Limitations and Installation (Continued):**

| TABLE 2A: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation Layer** | **Top Insulation Layer** | | | **Roof Cover** | |
| | | | **Type** | **Fastener** | **Attach** | **Type** | **Attach** |
| #4 (S-4) | Min. 22 ga. type B, 80 ksi or min. 20 ga., type B, 33 ksi steel | One or more layers, min. 1.5" thick, any combination, loose laid | Min. 0.5" DensDeck Prime | See Note 2 | 1 per 1 $ft^2$ | S327, G410, Sikaplan Adhered | Sarnacol 2170, Sarnacol 2170 VC, Sarnacol 2121, Sikaplan Single-Step Membrane Adhesive |
| **Design Pressure (psf)** | | | | | | | |
| -97.5 | | | | | | | |

| TABLE 2A: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation Layer** | | | **Roof Cover** | |
| | | | **Type** | **Fastener** | **Attach** | **Type** | **Attach** |
| #5 (S-5) | Min. 22 ga. Type B, 80 ksi or min. 20 ga., type B 33 ksi steel | One or more layers, min. 1.5-inch thick, any combination, loose laid | Min. 0.5" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board | See Note 2 | 1 per 1 $ft^2$ | S327 Felt or G410 Felt | Sarnacol AD-FMA or Sarnacol OM-FMA, 12-inch o.c., Sarnacol 2170, Sarnacol 2121, Sarnacol 2170 VC |
| **Design Pressure (psf)** | | | | | | | |
| -97.5 | | | | | | | |

**Limitations and Installation (Continued):**

| TABLE 2A: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation Layer** | | | **Roof Cover** | |
| | | | **Type** | **Fastener** | **Attach** | **Type** | **Attach** |
| #6 (S-6) | Min. 22 ga. type B, 80 ksi | One or more layers, min. 1.5" thick, any combination, loose laid | Min. 0.5" DensDeck Prime | See Note 2 | 1 per 1 $ft^2$ | S327, G410, Sikaplan Adhered | Sarnacol 2170, Sarnacol 2170 VC, Sikaplan Single-Step Membrane Adhesive |
| **Design Pressure (psf)** | | | | | | | |
| -127.5 | | | | | | | |

| TABLE 2B: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, BONDED BASE PLY, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | | | **Roof Cover** | | |
| | | | **Type** | **Fastener** | **Attach** | **Base** | **Ply** | **Cap** |
| #7 (S-7) | Min. 22 ga. type B, 33 ksi steel | One or more layers, min. 1.5" thick, any combination, loose laid | Min. 0.5" DensDeck Prime | Sarnafastener #14 & Sarnaplate | 1 per 2 $ft^2$ | Ply Sheet HA 87 in hot asphalt or Ply Sheet TA 87, torch applied. | (Optional) Ply Sheet HA 87 in hot asphalt | S327 Felt, G410 Felt in Sarnacol AD-FMA or OM-FMA, 12" o.c. |
| **Design Pressure (psf)** | | | | | | | | |
| -45.0 | | | | | | | | |

**Limitations and Installation (Continued):**

| TABLE 2B: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER<br>MECHANICALLY ATTACHED INSULATION, BONDED BASE PLY, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | | | **Roof Cover** | | |
| | | | **Type** | **Fastener** | **Attach** | **Base** | **Ply** | **Cap** |
| #8<br>(S-8) | Min. 22 ga. type B, 33 ksi steel | One or more layers, min. 1.5" thick, any combination, loose laid | Min. 0.5" DensDeck Prime | Sarnafastener #14 & Sarnaplate | 1 per 1.6 $ft^2$ | Ply Sheet HA 87 in hot asphalt or Ply Sheet TA 87, torch applied. | (Optional) Ply Sheet HA 87 in hot asphalt | S327 Felt, G410 Felt in Sarnacol AD-FMA or OM-FMA, 12" o.c. |
| **Design Pressure (psf)** | | | | | | | | |
| -67.5 | | | | | | | | |

| TABLE 2C: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER<br>MECHANICALLY ATTACHED INSULATION, PLATE-BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Attachment** | | | **Roof Cover** |
| | | | | **Fastener** | **Row Spacing (inch)** | **Fastener Spacing (inch)** | |
| #9<br>(S-9) | Min. 22 ga. Type B, 33 ksi steel | (*Optional for recover*) One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | Sarnafastener-XP Fasteners with Sarnadisc RhinoBond plates or Sikaplan Fastener #15 with Sikaplan RhinoBond Discs | 36 | 24 (staggered) | S327, $_{10}$S327, Sikaplan Fastened |
| **Design Pressure (psf)** | | **Roof Cover Attachment** | | | | | |
| -45.0 | | Bonded to Sarnadisc RhinoBond plates or Sikaplan RhinoBond Discs with Rhino Plate bonding tool, in accordance with manufacturer's instructions. | | | | | |

**Limitations and Installation (Continued):**

| TABLE 2C: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED INSULATION, PLATE-BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Attachment** | | | **Roof Cover** |
| | | | | **Fastener** | **Row Spacing (inch)** | **Fastener Spacing (inch)** | |
| #10 (S-10) | Min. 22 ga. Type B, 33 ksi steel | (Optional for recover) One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | Sarnafastener-XP Fasteners with Sarnadisc RhinoBond plates or Sikaplan Fastener #15 with Sikaplan RhinoBond Discs | 24 | 24 (staggered) | S327, $_{10}$S327, Sikaplan Fastened |
| **Design Pressure (psf)** | | | | **Roof Cover Attachment** | | | |
| -60.0 | | | | Bonded to Sarnadisc RhinoBond plates or Sikaplan RhinoBond Discs with Rhino Plate bonding tool, in accordance with manufacturer's instructions. | | | |

| TABLE 3: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED MEMBRANE – STRESS PLATES AND FASTENERS | | | | | |
|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Roof Cover** | |
| | | | | **Type** | **Fasteners** |
| #11 (S-11) | Min. 22 ga., type B, 80 ksi steel | One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | $_{10}$S327, Sikaplan Fastened | Sarnafastener-XP and Sarnadisc-XPN plates |
| **Design Pressure (psf)** | | | **Roof Cover Attachment** | | |
| -37.5 | | | 12-inch o.c. within 5.5-inch wide laps spaced 114.5-inch o.c. Laps sealed with 1.75-inch heat weld. | | |

**Limitations and Installation (Continued):**

| TABLE 3: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED MEMBRANE – STRESS PLATES AND FASTENERS | | | | | |
|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Roof Cover** | |
| | | | | **Type** | **Fasteners** |
| #12 (S-12) | Min. 22 ga., type B, 80 ksi steel | One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4"DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | $_{10}$S327, Sikaplan Fastened | Sika Sarnafil MAXLoad fasteners and Sarnadisc MAXLoad plates |
| **Design Pressure (psf)** | | **Roof Cover Attachment** | | | |
| -45.0 | | 12-inch o.c. within 7-inch wide laps spaced 113-inch o.c. Laps sealed with 1.5-inch heat weld. | | | |

| TABLE 3: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED MEMBRANE – STRESS PLATES AND FASTENERS | | | | | |
|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Roof Cover** | |
| | | | | **Type** | **Fasteners** |
| #13 (S-13) | Min. 22 ga., type B, 80 ksi steel | One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | $_{10}$S327, Sikaplan Fastened | Sarnafastener-XP and Sarnadisc-XPN plates |
| **Design Pressure (psf)** | | **Roof Cover Attachment** | | | |
| -60.0 | | 12-inch o.c. within 5.5-inch wide laps spaced 54-inch o.c. Laps sealed with 1.6-inch heat weld. | | | |

| TABLE 3: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED MEMBRANE – STRESS PLATES AND FASTENERS | | | | | |
|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Roof Cover** | |
| | | | | **Type** | **Fasteners** |
| #14 (S-14) | Min. 22 ga., type B, 80 ksi steel | One or more layers, any combination, prelim attach | (*Optional*) Min. ¼" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | $_{10}$S327, Sikaplan Fastened | Sika Sarnafil MAXLoad fasteners and Sarnadisc MAXLoad plates |
| **Design Pressure (psf)** | | **Roof Cover Attachment** | | | |
| -60.0 | | 12-inch o.c. within 6.5-inch wide laps spaced 53-inch o.c. Laps sealed with 1.6-inch heat weld. | | | |

**Limitations and Installation (Continued):**

| TABLE 3: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED MEMBRANE – STRESS PLATES AND FASTENERS | | | | | |
|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Roof Cover** | |
| | | | | **Type** | **Fasteners** |
| #15 (S-15) | Min. 22 ga., type B, 80 ksi steel | One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | $_{10}$S327, Sikaplan Fastened | Sarnafastener-XP and Sarnadisc-XPN plates |
| **Design Pressure (psf)** | | **Roof Cover Attachment** | | | |
| -90.0 | | 6" o.c. within 5.5" wide laps spaced 54" o.c. Laps sealed with 1.6" heat weld. | | | |

| TABLE 3: NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER MECHANICALLY ATTACHED MEMBRANE – STRESS PLATES AND FASTENERS | | | | | |
|---|---|---|---|---|---|
| **Assembly No.** | **Substrate** | **Base Insulation** | **Top Insulation** | **Roof Cover** | |
| | | | | **Type** | **Fasteners** |
| #16 (S-16) | Min. 22 ga., type B, 80 ksi steel | One or more layers, any combination, prelim attach | (*Optional*) Min. 1/4" DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, prelim attach | $_{10}$S327, Sikaplan Fastened | Sika Sarnafil MAXLoad fasteners and Sarnadisc MAXLoad plates |
| **Design Pressure (psf)** | | **Roof Cover Attachment** | | | |
| -105.0 | | 6" o.c. within 6.5" wide laps spaced 53" o.c. Laps sealed with 1.6" heat weld. | | | |

**Note:** Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.